

### **AMENDMENT TO THE DRAWINGS**

Attached hereto are replacement figure sheets for Figures 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18 19, 20 and 21, which include the changes, without markings, identified below.

Fig. 4 has been amended to identify each signal.

Fig. 5 has been amended to identify the dotted line and to replace "Vcom" with --Vst--.

Fig. 6 has been amended to replace "Vcom" with --Vst--.

Fig. 7 has been amended to replace "Vcom" with --Vst--

Fig. 8 has been amended to identify each signal and to replace "common" with --Vst--.

Fig. 10 has been amended to replace "common" with --Storage Electrode Line--.

Fig. 11 has been amended to replace "COM" with --Storage Electrode--.

Fig. 12 has been amended to identify each signal and to replace "COMMON" with --Storage Electrode--.

Fig. 13 has been amended to identify each signal and to replace "common" with --Vst--.

Fig. 14 has been amended to replace "COMMON" with --Storage Electrode--.

Fig. 15 has been amended to replace "common" with --Storage Electrode--.

Fig. 16 has been amended to replace "common" with --Storage Electrode--.

Fig. 17 has been amended to replace "common" with --Storage Electrode--.

Fig. 18 has been amended to replace "common" with --Storage Electrode--.

Fig. 19 has been amended to replace "common" with --Storage Electrode--.

Fig. 20 has been amended to replace "common" with --Storage Electrode--.

Fig. 21 has been amended to replace "common" with --Storage Electrode--.

### **REMARKS**

By this amendment, claims 23-33 have been amended. Claims 1-22 have been previously cancelled. Accordingly, claims 23-33 are currently pending in the application, of which claims 23, 27 and 30 are independent claims.

In view of the above amendments and the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

### **REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH**

Claims 23-33 stand rejected under 35 U.S.C. § 112, first paragraph because the specification fails to describes the “storage electrode”. Applicants respectfully traverse this rejection for at least the following reasons.

In the Office Action, the Examiner asserted that the claimed limitation “storage electrode” is not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time the application was filed, had possession of the claimed invention.

This assertion is respectfully disagreed with because, although the originally filed specification did not use the term “storage electrode”, one skilled in the art would have understood that the certain occurrences of the term “common electrode” in the specification is in fact a storage electrode in the commonly known sense. Also, Applicants believe that it is necessary to replace certain occurrences of “common electrode” with --storage electrode-- to comply with the definiteness requirement under 35 U.S.C. §112, second paragraph.

For example, Paragraph [0005] of the specification describes that a color filter substrate is provided with a common electrode and color filters". Paragraph [0006] describes a liquid crystal capacitor Clc and storage capacitor Cst, and Paragraph [0008] describes "the common electrode Vcom of the color filter substrate". Thus, the early part of the specification uses the term "common electrode" to indicate the common electrode formed at the color filter substrate.

However, Fig. 11 shows to the liquid crystal capacitance Clc and the storage capacitance Cst, and the signals COM n odd and COM n even are connected to the storage capacitance Cst. It should be clear that the signals COM n odd and COM n even are different from the conventional "common" signal applied to the common electrode of the color filter substrate. Thus, one skilled in the art would have understood that the certain occurrences of the term "common electrode" in the specification is in fact a storage electrode in the commonly known sense. Also, Applicants believe that it is necessary to replace "common electrode" with --storage electrode-- to avoid the confusion and misunderstanding.

Thus, it is submitted that claims 22-33 comply with the written description requirement. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 112, first paragraph rejection of claims 22-33.

#### **REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

Claim 24-26, 28 and 31 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Particularly, the Examiner pointed out

that the limitation “the switching element” lacks sufficient antecedent basis. Applicants respectfully traverse this rejection for at least the following reasons.

In this response, independent claims 23 and 30 have been amended to further recite “a plurality of switching elements”, thereby providing sufficient antecedent basis. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 112, first paragraph rejection of claims 24-26, 28 and 31.

#### **REJECTIONS UNDER 35 U.S.C. § 102(e)**

Claims 23 stands rejected under 35 U.S.C. §102(e) as being unpatentable by U. S. Patent No. 6,140,990 issued to Schlig (“Schlig”). This rejection is respectfully traversed at least for the following reasons.

Claim 23 recites “each of the first and second pixels including a pixel electrode overlapping the storage electrode line pair”. For example, Fig. 10 shows each pixel electrode overlapping the storage electrode line pair (i.e., storage electrode line A and storage electrode line B).

In this regard, the Examiner asserted that this claimed feature is shown in Fig. 2 and column 3, lines 25-31 of Schlig. This assertion is respectfully traversed.

Fig. 2 of Schlig is a schematic diagram, not an actual physical layout. Thus, it is not possible to determine if a pixel electrode is overlapping both the bootstrap lines 11a and 11b from the schematic diagram shown in Fig. 2. Also, column 3, lines 25-31 of Schlig does not disclose or suggest “a pixel electrode overlapping the storage electrode line pair”, as claimed.

For these reasons, it is submitted that claim 23 is patentable over Schlig.  
Accordingly, withdrawal of the rejection is respectfully requested.

Claims 27 and 29 stand rejected under 35 U.S.C. §102(e) as being unpatentable by U. S. Patent No. 6,489,952 issued to Tanaka, et al. ("Tanaka"). This rejection is respectfully traversed.

Independent claim 27 recite "each storage electrode line intersecting the pixel electrodes corresponding thereto". An example of this claimed feature is shown in Fig. 14 of the present application, in which each of the storage electrode lines A and B intersecting the corresponding pixel electrodes.

In this regard, the Examiner asserted that "It can be seen from figure 2 that ... each storage electrode line intersecting the pixel electrodes ..." (Office Action, page 4). However, Fig. 2 of the Tanaka shows a schematic diagram, not an actual physical layout. It is not possible to determine if the lines from the nodes COM1 and COM2 actually intersect the pixel electrode or not from the schematic diagram shown in Fig. 1.

Since Tanaka fails to disclose or suggest "each storage electrode line intersecting the pixel electrodes corresponding thereto", it is submitted that claim 27 is patentable over Tanaka. Claim 29 is dependent from claim 27 and hence would be also patentable at least for the same reason.

For these reasons, it is submitted that claims 27 and 29 are patentable over Tanaka. Accordingly, withdrawal of the rejection is respectfully requested.

Claim 30 stands rejected under 35 U.S.C. §102(e) as being unpatentable by U.S. Patent No. 6,424,328 issued to Ino, et al. ("Ino"). This rejection is respectfully traversed.

Claim 30 recites "the storage capacitances of the pixels on the same row are alternately formed between the first pixel electrodes and two neighboring storage electrode lines". For example, Fig. 15 of the present application shows the storage capacitances of the pixels of the first row on the odd numbered columns are formed between the pixel electrodes and the storage electrode line A, and the storage capacitances of the pixels of the first row on the even numbered columns are formed between the pixel electrodes and the storage electrode line B.

In this regard, the Examiner asserted "the storage capacitance (22) of the pixels on the same row are alternately formed between the first pixel electrode (electrode 23) and two neighboring storage electrode lines (Cs and Vcom)." (Office Action, pages 4-5) This assertion is respectfully disagreed with.

As shown in Fig. 2 of Ino, the storage capacitances 22 of the pixels on the same row is formed between the pixel electrodes and the common storage line Cs. It should be noted that none of the storage capacitances is connected to the common voltage VCOM. The common voltage VCOM is connected to the liquid crystal capacitance 23.

For this reason, it is submitted that claim 30 is patentable over Ino. Accordingly, withdrawal of the rejection is respectfully requested.

## **OTHER MATTERS**

In this response, the specification and drawings have been amended to replace several occurrences of "common" with --storage-- because of the reasons described in the "REJECTIONS UNDER 35 U.S.C. § 112, FIRST PARAGRAPH" section.




**CONCLUSION**

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

  
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**ATTACHMENT: (A) DRAWING REPLACEMENT SHEETS  
(B) MARKED UP VERSION OF SUBSTITUTE SPECIFICATION  
(C) CLEAN VERSION OF SUBSTITUTE SPECIFICATION**

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